

**LISTING OF THE CLAIMS**

1 (WITHDRAWN): A probe carrier having immobilized thereto a probe that is specifically bindable to a target substance, the probe being immobilized to the carrier through the following substances:

- a) a linker bound to the probe;
- b) a first functional group bound to the linker; and
- c) a second functional group bound to the first functional group,

wherein a combination of the first functional group and the second functional group comprises an acidic functional group and a basic functional group.

2 (WITHDRAWN): The probe carrier according to claim 1, wherein the combination of the first functional group and the second functional group comprises an acidic functional group having a dissociation constant of  $1.0 \times 10^{-12}$  or more and a basic functional group having a dissociation constant of  $1.0 \times 10^{-6}$  or more.

3 (WITHDRAWN): The probe carrier according to claim 1, wherein the probe comprises an oligonucleotide or a nucleic acid.

4 (WITHDRAWN): The probe carrier according to claim 3, wherein the oligonucleotide or the nucleic acid has the linker at a 3'-terminal or a 5'-terminal thereof.

5 (WITHDRAWN): The probe carrier according to claim 1, wherein the linker comprises a methylene chain or a polyether chain.

6 (WITHDRAWN): The probe carrier according to claim 1, wherein the acidic functional group is a mercapto group and the basic functional group is an amino group.

7 (WITHDRAWN): The probe carrier according to claim 1, wherein the basic functional group is one selected from the group consisting of a primary amino group, a secondary amino group, and a mixture thereof.

8 (WITHDRAWN): The probe carrier according to claim 1, wherein the probe has a second functional group introduced by treatment of the solid phase carrier with a silane coupling agent.

9 (WITHDRAWN): The probe carrier according to claim 8, wherein the solid phase carrier is one selected from the group consisting of glass, quartz, silica, and a mixture thereof.

10 (WITHDRAWN): The probe carrier according to claim 1, wherein the combination of the first functional group and the second functional group is a combination that causes shift of mutual chemical shifts of signals in the NMR spectrum by binding each other.

11 (WITHDRAWN): A detection method comprising the steps of:

imparting an analyte containing a substance to be detected to a probe carrier according to claim 1; and

detecting the substance to be detected in the analyte bound to the probe carrier.

12 (WITHDRAWN): A detection apparatus using a detection method according to claim 11.

13 (WITHDRAWN): An apparatus for producing a probe carrier according to claim 1.

14 (CURRENTLY AMENDED): A method of immobilizing a probe that is specifically bindable to a target substance to a solid phase carrier, comprising the steps of:

providing a probe having a linker containing a first functional group;

providing an immobilization substrate having a second functional group;

imparting the probe to the immobilization substrate; and

binding the first functional group of the probe and the second functional group of the immobilization substrate to each other,

wherein a combination of the first functional group and the second functional group comprises an acidic functional group and a basic functional group, and wherein the first functional group and the second functional group are in the state of coupling without covalently bonding,

wherein the first functional group is a mercapt group, the second function group is an amino group, the probe is a nucleic acid and the mercapt group and the amino group are directly bonded through ionic bond.

15 (ORIGINAL): The method of immobilizing a probe according to claim 14, wherein the combination of the first functional group and the second functional group comprises an acidic functional group having a dissociation constant of  $1.0 \times 10^{-12}$  or more and a basic functional group having a dissociation constant of  $1.0 \times 10^{-6}$  or more.

16 (ORIGINAL): The method of immobilizing a probe according to claim 14, wherein the probe comprises an oligonucleotide or a nucleic acid.

17 (ORIGINAL): The method of immobilizing a probe according to claim 16, wherein the oligonucleotide or the nucleic acid has the linker at a 3'-terminal or a 5'-terminal thereof.

18 (ORIGINAL): The method of immobilizing a probe according to claim 14, wherein the linker comprises a methylene chain or a polyether chain.

19 (ORIGINAL): The method of immobilizing a probe according to claim 14, wherein the acidic functional group is a mercapto group and the basic functional group is an amino group.

20 (ORIGINAL): The method of immobilizing a probe according to claim 14, wherein the basic functional group is one selected from the group consisting of a primary amino group, a secondary amino group, and a mixture thereof.

21 (PREVIOUSLY PRESENTED): The method of immobilizing a probe according to claim 14, wherein the second functional group is introduced by treatment of the solid phase carrier with a silane coupling agent.

22 (ORIGINAL): The method of immobilizing a probe according to claim 21, wherein the solid phase carrier comprises one selected from the group consisting of glass, quartz, silica, and a mixture thereof.

23 (PREVIOUSLY PRESENTED): The method of immobilizing a probe according to claim 14, wherein the combination of the first functional group and the second functional group is a combination that causes shift of mutual chemical shifts of signals in the NMR spectrum by binding each other.

24 (CURRENTLY AMENDED): A method of immobilizing a plurality of probes that are specifically bindable to a target substance to a solid phase carrier, comprising the steps of:

providing a plurality of probes each having a linker containing a first functional group;  
providing an immobilization substrate having a plurality of second functional groups;  
imparting the probes to the immobilization substrate; and

binding the first functional groups of the probes and the second functional groups of the immobilization substrate to each other,

wherein a combination of the first functional group and the second functional group comprises an acidic functional group and a basic functional group, and ~~wherein~~ each bond of the first functional group and the second functional group is in the state of coupling without covalently bonding, and

wherein the first functional group is a mercapt group, the second function group is an amino group, each of the probes is a nucleic acid and the mercapt group and the amino group are directly bonded through ionic bond.